

12/590958
JAPG Rec'd PCT/PTO 25 AUG 2006

Docket No.: 13987-00019-US
(PATENT)

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of:
Petra Cirpus et al.

Application No.: National Phase of
PCT/EP2005/001865

Confirmation No.: N/A

Filed: Concurrently Herewith

Art Unit: N/A

For: METHOD FOR PRODUCING
UNSATURATED OMEGA-3-FATTY ACIDS
IN TRANSGENIC ORGANISMS

Examiner: Not Yet Assigned

INFORMATION DISCLOSURE STATEMENT (IDS)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Pursuant to 37 CFR 1.56, 1.97 and 1.98, the attention of the Patent and Trademark Office is hereby directed to the references listed on the attached PTO/SB/08. It is respectfully requested that the information be expressly considered during the prosecution of this application, and that the references be made of record therein and appear among the "References Cited" on any patent to issue therefrom.

This Information Disclosure Statement accompanies the new patent application submitted herewith.

In accordance with 37 CFR 1.98(a)(2)(ii), Applicant has not submitted copies of U.S. patents and U.S. patent applications. Applicant submits herewith copies of foreign patents and non-patent literature in accordance with 37 CFR 1.98(a)(2).

10/590958

Application No.: National Phase of PCT/EP2005/001865

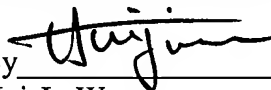
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This statement is not to be interpreted as a representation that the cited documents are material, that a search has been conducted, or that no other relevant information exists. Nor shall the citation of any document herein be construed per se as a representation that such document is prior art. Moreover, Applicants understand the Examiner will make an independent evaluation of the cited documents.

The Director is hereby authorized to charge any deficiency in the fees filed, asserted to be filed or which should have been filed herewith (or with any paper hereafter filed in this application by this firm) to our Deposit Account No. 03-2775, under Order No. 13987-00019-US.

Respectfully submitted,

By 
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Substitute for form 1449A/B/PTO INFORMATION DISCLOSURE STATEMENT BY APPLICANT <i>(Use as many sheets as necessary)</i>				Complete if Known	
				Application Number	Not Yet Assigned 10/590958
				Filing Date	Concurrently Herewith
				First Named Inventor	Petra Cirpus
				Art Unit	N/A
				Examiner Name	Not Yet Assigned
Sheet	1	of	4	Attorney Docket Number	13987-00019-US

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number-Kind Code ² (if known)			
	AA*	US-5,614,393	03-25-1997	Thomas T. L. et al.	
	AB*	US-6,043,411	03-28-2000	Nishizawa et al.	
	AC*	US-20040049805-A1	03-11-2004	Lerchl et al.	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³ -Number ⁴ -Kind Code ⁵ (if known)				
	BA	WO-91/13972	09-19-1991	Calgene Inc.		
	BB	WO-93/06712	04-15-1993	Rhone-Poulenc Agrochimie		
	BC	WO-93/11245	06-10-1993	E.I. DuPont De Nemours and Co.		
	BD	EP-0 550 162	07-07-1993	Pioneer Hi-Bred International, Inc.		
	BE	WO-94/11516	05-26-1994	E.I. duPont de Nemours And Company		
	BF	WO-94/18337	08-18-1994	Monsanto Company & Michigan State University		
	BG	WO-95/18222	07-06-1995	Kirin Beer Kabushiki Kaisha		See US 6,043,411
	BH	WO-96/21022	07-11-1996	Rhone-Poulenc Agrochimie		
	BI	WO-97/21340	06-19-1997	Cargill, Inc.		
	BJ	WO-97/30582	08-28-1997	Carnegie Institution Of Washington & Monsanto Co., Inc.		
	BK	EP-0 794 250	09-10-1997	Soremartec S.A. & Ferrero S.p.A.		
	BL	WO-98/46763	10-22-1998	Calgene LLC & Abbott Laboratories		
	BM	WO-98/46764	10-22-1998	Calgene LLC & Abbott Laboratories		
	BN	WO-98/46765	10-22-1998	Calgene LLC & Abbott Laboratories		
	BO	WO-98/46776	10-22-1998	Calgene LLC		
	BP	WO-99/27111	06-03-1999	University of Bristol		
	BQ	WO-99/64616	12-16-1999	Abbott Laboratories		
	BR	WO-00/21557	04-20-2000	Merck & Co., Inc.		

Examiner Signature		Date Considered	
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Substitute for form 1449A/B/PTO				Complete Known	
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				First Named Inventor	Petra Cirpus
				Art Unit	N/A
				Examiner Name	Not Yet Assigned
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	BS	WO-02/057464	07-25-2002	BASF Plant Science GmbH		
	BT	WO-03/064596	08-07-2003	Abbott Laboratories		
	BU	WO-2004/071467	08-26-2004	E. I. duPont de Nemours and Company		
	BV	WO-2005/012316	02-10-2005	BASF Plant Science GmbH		See Abstract

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. * CITE NO.: Those application(s) which are marked with an single asterisk (*) next to the Cite No. are not supplied (under 37 CFR 1.98(a)(2)(iii)) because that application was filed after June 30, 2003 or is available in the IFW. ¹ Applicant's unique citation designation number (optional). ² See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. ³ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁴ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁵ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. ⁶ Applicant is to place a check mark here if English language Translation is attached.

NON PATENT LITERATURE DOCUMENTS				
Examiner Initials	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.		T ²
	CA	Abbadi, A. et al., "Biosynthesis of Very-Long-Chain Polyunsaturated Fatty Acids in Transgenic Oilseeds: Constraints on Their Accumulation", The Plant Cell 16 (2004), pp. 2734-2748.		
	CB	Akimoto, M. et al., "Carbon Dioxide Fixation and Polyunsaturated Fatty Acid Production by the Red Alga <i>Porphyridium Cruentum</i> ", Applied Biochemistry and Biotechnology 73 (1998), pp. 269-278.		
	CC	Calder, P.C., "Dietary Modification of Inflammation with Lipids", Proceedings of the Nutrition Society 61 (2002), pp. 345-358.		
	CD	Cleland, L.G. et al., "Fish Oil and Rheumatoid Arthritis: Antiinflammatory and Collateral Health Benefits", The Journal of Rheumatology, 27:10 (2000), pp. 2305-2307.		
	CE	Chalova, L.I. et al., "The Composition of Lipids of <i>Phytophthora infestans</i> and Their Ability to Induce Potato Phytoalexin Accumulation", Database BIOSIS, Abstract No. PREV198885045135, 1987.		
	CF	"MY-26-A-10 <i>Phytophthora infestans</i> cDNA, mRNA sequence." Database EMBL, Accession No. BE777235, 9/21/2000.		
	CG	Domergue, F. et al., "Cloning and Functional Characterization of <i>Phaeodactylum tricornutum</i> Front-End Desaturases Involved in Eicosapentaenoic Acid Biosynthesis", Eur. J. Biochem. 269 (2002), pp. 4105-4113.		
	CH	Horrocks, L.A. et al., "Health Benefits of Docosahexaenoic Acid (DHA)", Pharmacological Research 40:3 (1999), pp. 211-225.		
	CI	Huang, Y-S. et al., "Cloning of $\Delta 12$ - and $\Delta 6$ -Desaturases from <i>Mortierella alpina</i> and Recombinant Production of γ -Linolenic Acid in <i>Saccharomyces cerevisiae</i> ", Lipids 34:7 (1999), pp. 649-659.		
	CJ	Kamoun, S. et al., "Initial Assessment of Gene Diversity for the Oomycete Pathogen <i>Phytophthora infestans</i> Based on Expressed Sequences", Fungal Genetics and Biology 28 (1999), pp. 94-106.		
	CK	Khozin, I. et al., "Elucidation of the Biosynthesis of Eicosapentaenoic Acid in the Microalga <i>Porphyridium cruentum</i> ", Plant Physiol. 114 (1997), pp. 223-230.		
	CL	McKeon, T. et al., "Stearoyl-Acyl Carrier Protein Desaturase from Safflower Seeds", in "Methods in Enzymology", Vol. 71, Part C: Lipids, Editor: J. Lowenstein (1981), New York, pp. 275-281.		
	CM	Pereira, S.L. et al., "A Novel $\omega 3$ -Fatty Acid Desaturase Involved in the Biosynthesis of		

Examiner Signature		Date Considered	
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PTO/SB/08a/b (07-05)

Approved for use through 07/31/2006. OMB 0651-0031

U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

Substitute for form 1449A/B/PTO				Complete if Known	
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				First Named Inventor	Petra Cirpus
				Art Unit	N/A
				Examiner Name	Not Yet Assigned
Sheet	3	of	4	Attorney Docket Number	13987-00019-US

		Eicosapentaenoic Acid", Biochem. J. 378 (2004), pp. 665-671.	
	CN	Pereira, S.L. et al., "Recent Advances in the Study of Fatty Acid Desaturases from Animals and Lower Eukaryotes", Prostaglandins, Leukotrienes and Essential Fatty Acids 68 (2003), pp. 97-106.	
	CO	Poulos, A., "Very Long Chain Fatty Acids in Higher Animals - A Review", Lipids 30:1 (1995), pp. 1-14.	
	CP	Sakuradani, E. et al., " Δ 6-Fatty Acid Desaturase from an Arachidonic Acid-Producing <i>Mortierella</i> Fungus Gene Cloning and Its Heterologous Expression in a Fungus, <i>Aspergillus</i> ", Gene 238 (1999), pp. 445-453.	
	CQ	Shimokawa, H., "Beneficial Effects of Eicosapentaenoic Acid on Endothelial Vasodilator Functions in Animals and Humans", World Rev. Nutr. Diet 88 (2001), pp. 100-108.	
	CR	Spychalla, J.P. et al., "Identification of an Animal ω -3 Fatty Acid Desaturase by Heterologous Expression in <i>Arabidopsis</i> ", Proc. Natl. Acad. Sci. USA 94 (1997), pp. 1142-1147.	
	CS	Stukey, J.E. et al., "The <i>OLE1</i> Gene of <i>Saccharomyces cerevisiae</i> Encodes the Δ 9 Fatty Acid Desaturase and Can Be Functionally Replaced by the Rat Stearoyl-CoA Desaturase Gene", The Journal of Biological Chemistry 265:33 (1990), pp. 20144-20149.	
	CT	Takeyama, H. et al., "Expression of the Eicosapentaenoic Acid Synthesis Gene Cluster from <i>Shewanella</i> sp. in a Transgenic Marine Cyanobacterium, <i>Synechococcus</i> sp.", Microbiology 143 (1997), pp. 2725-2731.	
	CU	Tocher, D.R. et al., "Recent Advances in the Biochemistry and Molecular Biology of Fatty Acyl Desaturases", Prog. Lipid Res. 37:2/3 (1998), pp. 73-117.	
	CV	Totani, N. et al., "The Filamentous Fungus <i>Mortierella alpina</i> , High in Arachidonic Acid", Lipids, 22:2 (1987), pp. 1060-1062.	
	CW	Vazhappilly, R. et al., "Heterotrophic Production Potential of Omega-3 Polyunsaturated Fatty Acids by Microalgae and Algae-like Microorganisms", Botanica Marina 41 (1998), pp. 553-558.	
	CX	Wada, H. et al., "Enhancement of Chilling Tolerance of a Cyanobacterium by Genetic Manipulation of Fatty Acid Desaturation", Nature 347 (1990), pp. 200-203.	
	CY	Wang, X.-M. et al., "Biosynthesis and Regulation of Linolenic Acid in Higher Plants", Physiol. Biochem. 26:6 (1988), pp. 777-792.	
	CZ	Yu, R. et al., "Production of Eicosapentaenoic Acid by a Recombinant Marine Cyanobacterium, <i>Synechococcus</i> sp.", Lipids, 35:10 (2000), pp. 1061-1064.	
	CA1	Zank, T.K. et al., "Cloning and Functional Characterisation of an Enzyme Involved in the Elongation of Δ 6-polyunsaturated Fatty Acids from the Moss <i>Physcomitrella patens</i> ", The Plant Journal 31:3 (2002), pp. 255-268.	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹Applicant's unique citation designation number (optional). ²Applicant is to place a check mark here if English language Translation is attached.

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